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EXAMINER				
USTARIS, JOSEPH G				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/681,953

Applicant(s)

PETROVIC ET AL.

Examiner

JOSEPH G. USTARIS

Art Unit

2424

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 59-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 20-37, 43-47 and 49-58 is/are rejected.
- 7) ☒ Claim(s) 9, 19, 38-42 and 48 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-58, in the reply filed on May 22, 2009 is acknowledged.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted was submitted on 11/21/2003, 06/09/2004, 06/28/2004, and 10/18/2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claims 22, 23, 25, 29, 51-53, and 57 are objected to under 37 CFR 1.75.

Claims 22, 23, 25 recites the limitation "the detectability metric". There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "transmission of multimedia content in step (f)". There is no "step (f)" in claim 1.

Claims 51-53 recites the limitation "the detectability metric". There is insufficient antecedent basis for this limitation in the claim.

Claim 57 recites the limitation "transmission of multimedia content in step (f)". There is no transmission in "step (f)" in claim 31.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 8, 10-18, 22, 31, 32, 37, 43-47, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1).

Regarding claim 1, Ohta discloses a method for monitoring broadcast multimedia content, comprising the steps of:

- (a) receiving multimedia source content (See Fig. 9, 42 and Fig. 10, S51);
- (b) generating identification information (e.g. ID number) related to the source content (See paragraph 0168);
- (d) transferring said identification information to a central repository (32) (See Fig. 10, S53); and
- (e) transmitting the embedded multimedia content through one or more broadcast networks (See Fig. 9; paragraph 0129).

Ohta does disclose implanting/embedding ID numbers in the content (See Figs. 9 and 10, 43 and S52). However, Ohta does not explicitly disclose (c) imperceptibly and repeatedly embedding the audio component of said multimedia source content with said identification information.

Philyaw et al. (Philyaw) discloses a system for embedding code into content. Philyaw discloses imperceptibly embedding the audio component of said multimedia source content with said identification information (e.g. routing information) (See Fig. 9; col. 10 lines 1-24 and col. 17 lines 2-3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta to imperceptibly embed the audio component of said multimedia source content with said identification information, as taught by Philyaw, in order to enhance the capabilities of the system thereby providing marked (e.g. watermarked) content that is undetectable to an observer so as to not ruin the observers experience of the content (See Finseth col. 8 lines 30-35).

Finseth et al. (Finseth) discloses a system for embedding watermarks. Finseth discloses repeatedly embedding (e.g. embedding multiple copies) the information (See col. 6 lines 51-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw to repeatedly embed said identification information, as taught by Finseth, in order to facilitate later identification of the information and to reduce errors in the identification (See Finseth col. 6 lines 51-61).

Regarding claim 2, further comprising:

- (f) receiving the transmitted multimedia content (See Ohta Fig. 9, 9); and
- (g) processing said received multimedia content to extract identification information related thereto (See Ohta Figs. 9 and 10; 9, 11, 36, S55-S57).

Regarding claim 3, wherein a detectability metric (e.g. compared result 13) is produced by assessing the success of said embedding and the detectability metric together with said identification information (e.g. the compared ID numbers) is transferred to a central repository (14) (See Ohta Fig. 9; paragraph 0176).

Regarding claim 8, wherein multiple copies of embedded information are extracted to improve the reliability of multimedia monitoring (See Finseth col. 6 lines 51-61).

Regarding claim 10, wherein said multiple copies are extracted from the multimedia content received from a single transmission channel (e.g. frequency 1) (See Finseth col. 3 lines 40-46).

Regarding claim 11, wherein said multiple copies are extracted from the multimedia content received from a plurality of transmission channels (e.g. frequencies 1-2) (See Finseth col. 3 lines 40-46).

Regarding claim 12, wherein said multiple copies are extracted using a redundant network of receivers (See Finseth Fig. 1, 34).

Regarding claim 13, Ohta in view of Philyaw and Finseth does not explicitly disclose that said redundant receivers are deployed in separate geographical locations.

Official Notice is taken that it is well known in the art that receivers are deployed in separate geographical location. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the redundant receivers

deployed in separate geographical locations in order to expand the service area served by the system.

Regarding claim 14, Ohta in view of Philyaw and Finseth does not explicitly disclose that the embedded multimedia content is transmitted over at least one terrestrial broadcast channel.

Official Notice is taken that it is well known in the art to transmit content over at least one terrestrial broadcast channel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedded multimedia content be transmitted over at least one terrestrial broadcast channel in order reach various customers with different types of receiver systems.

Regarding claim 15, Ohta in view of Philyaw and Finseth does not explicitly disclose that the embedded multimedia content is transmitted over at least one Internet broadcast channel.

Official Notice is taken that it is well known in the art to transmit content over at least one Internet broadcast channel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedded multimedia content be transmitted over at least one Internet broadcast channel in order reach various customers with different types of receiver systems.

Regarding claim 16, Ohta in view of Philyaw and Finseth does not explicitly disclose that the embedded multimedia content is transmitted over at least one cable broadcast channel.

Official Notice is taken that it is well known in the art to transmit content over at least one cable broadcast channel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedded multimedia content be transmitted over at least one cable broadcast channel in order reach various customers with different types of receiver systems.

Regarding claim 17, Ohta in view of Philyaw and Finseth does not explicitly disclose that the embedded multimedia content is transmitted over at least one satellite broadcast channel.

Official Notice is taken that it is well known in the art to transmit content over at least one satellite broadcast channel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedded multimedia content be transmitted over at least one satellite broadcast channel in order reach various customers with different types of receiver systems.

Regarding claim 18, wherein said extracted identification information is used to identify at least one of:

- (i) broadcast advertisement content,
- (ii) broadcast music content,

(iii) broadcast television or radio program content (See Ohta paragraph 0129).

Regarding claim 22, wherein the detectability metric is used at monitoring sites to improve the reliability of detection reports (See Ohta Fig. 9, 14; paragraph 0174).

Claim 31 (wherein the system (See Ohta Fig. 9) performs the method) contains the limitations of claims 1-2 and is analyzed as previously discussed with respect to those claims.

Claims 32, 37, 43-47, and 51 (wherein the system (See Ohta Fig. 9) performs the method) contains the limitations of claims 3, 8, 14-18, and 22 respectively and is analyzed as previously discussed with respect to those claims.

6. Claims 4, 20, 21, 23, 24, 26, 33, 49, 50, 52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 2 and 31 above, and further in view of Vogel (US006757908B1).

Regarding claim 4, Ohta in view of Philyaw and Finseth does not explicitly disclose wherein extraction of the identification information is conducted in the presence of multiple transmission channel impairments.

Vogel discloses a distribution system of content. Vogel discloses that content is distributed in the presence of multiple transmission channel impairments (See Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the extraction of the identification information be conducted in the

presence of multiple transmission channel impairments, as taught by Vogel, in order to enhance the capabilities of the system thereby enabling the system to make measurement to help provide quick troubleshooting of the impairments (See col. 2 lines 50-58 and col. 3 lines 9-12).

Regarding claim 20, wherein:

the transmitted multimedia content is received (See Ohta Fig. 9, 9); and
the effectiveness of monitoring is enhanced by measuring received transmission channel characteristics (e.g. signal to noise ratio or noise floor level) to provide a measure of the quality of at least one of a received transmission or a transmission channel (See Vogel Fig. 3; col. 2 lines 50-58, col. 3 lines 9-12, and col. 6 lines 4-5).

Regarding claim 21, wherein said received transmission channel characteristics comprise at least one of Signal-to-Noise-Ratio (SNR) (See Vogel Fig. 3; col. 6 lines 4-5) and dropped packet rate.

Regarding claim 23, wherein the detectability metric (See claim 3) and measured transmission channel characteristics are used at monitoring sites to improve the reliability of multimedia monitoring (See Vogel Fig. 3; col. 2 lines 50-58, col. 3 lines 9-12, and col. 6 lines 4-5; wherein the measurements helps finds the cause of impairments on the transmission thus improving the reliability of multimedia monitoring).

Regarding claim 24, wherein said received transmission channel characteristics comprise at least one of Signal-to-Noise-Ratio (SNR) (See Vogel Fig. 3; col. 6 lines 4-5) and dropped packet rate.

Regarding claim 26, wherein the type and extent of impairments (e.g. SNR) present in a transmission channel are identified based on the quality of information (e.g. measurements) extracted from the embedded multimedia content carried on said channel (See Vogel Fig. 3; col. 2 lines 50-58, col. 3 lines 9-12, and col. 6 lines 4-5).

Claims 33, 49, 50, 52, and 54 contains the limitations of claims 4, 20, 21, 23, and 26 respectively and is analyzed as previously discussed with respect to those claims.

7. Claims 5, 7, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 1 and 31 above, and further in view of Sizer, II et al. (US006021432A).

Regarding claim 5, Ohta in view of Philyaw and Finseth does not disclose wherein said embedding is repeated in the temporal domain.

Sizer, II et al. (Sizer) discloses a system for embedding information into content. Sizer discloses that the embedding is repeated in the temporal domain (See col. 4 lines 3-22, e.g. real time traffic information and weather advisories are embedded at certain time points (temporal) of the broadcast). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedding be repeated in the temporal domain, as taught by Sizer, in order to provide information to the user in a timely manner (See col. 4 lines 20-22).

Regarding claim 7, wherein said embedding is repeated in both the temporal (See Sizer col. 4 lines 3-22, e.g. real time traffic information and weather advisories are embedded at certain time points (temporal) of the broadcast) and frequency domains (See Sizer col. 4 lines 3-22; e.g. spread spectrum techniques).

Claims 34 and 36 contains the limitations of claims 5 and 7 respectively and is analyzed as previously discussed with respect to those claims.

8. Claims 6 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 1 and 31 above, and further in view of Best et al. (US005113437A).

Regarding claim 6, Ohta in view of Philyaw and Finseth does not disclose wherein said embedding is repeated at different frequencies.

Best et al. (Best) discloses a system for inserting information into content. Best discloses inserting is repeated at different frequencies (See col. 1 lines 42-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the embedding be repeated at different frequencies, as taught by Best, in order to increase the protection of the content by making it difficult to modify, change, or remove the code (See col. 1 lines 26-36).

Claim 35 contains the limitations of claims 6 and 31 and is analyzed as previously discussed with respect to those claims.

9. Claims 25 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 1 and 31 above, and further in view of Levy (US20010044899A1).

Regarding claim 25, Ohta in view of Philyaw and Finseth does not disclose wherein the identification information is re-embeddable with modified embedding strength based on the detectability metric.

Levy discloses a watermarking system. Levy discloses that the identification information is re-embeddable (e.g. re-embedding the watermark) with modified embedding strength (e.g. increase the strength of embedding for new format or environment) based on the detectability metric (e.g. measured feedback 32 and 33) (See Fig. 1; paragraph 0029-0031). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have the identification information be re-embeddable with modified embedding strength based on the detectability metric, as taught by Levy, in order to enable the watermark (e.g. embedded information) to survive various environments/conditions (See paragraphs 0008 and 0029-0031).

Claim 53 contains the limitations of claims 25 and 31 and is analyzed as previously discussed with respect to those claims.

10. Claims 27, 28, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 1 and 31 above, and further in view of Diefes (US006067440A).

Regarding claim 27, Ohta in view of Philyaw and Finseth does not disclose wherein multiple points of origin of a composite transmission of said embedded multimedia content are differentiated.

Diefes discloses a cable distribution system. Diefes discloses multiple points of origin (e.g. different channels) of a composite transmission (e.g. composite broadcast signal) of said embedded multimedia content are differentiated (e.g. ID code) (See Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have multiple points of origin of a composite transmission of said embedded multimedia content be differentiated, as taught by Diefes, in order to better monitor the viewing habits of the subscriber (See col. 1 lines 40-41).

Regarding claim 28, Ohta in view of Philyaw, Finseth, and Diefes does not disclose wherein said multiple points of origin comprise at least one of:

- (i) a local broadcast segment of a given networked television broadcast,
- (ii) a regional broadcast segment of a given networked television broadcast,
- (iii) a national broadcast segment of a given networked television broadcast,
- (iv) an interstitially inserted advertisement in an Internet stream.

Official Notice is taken that it is well known to have points of origin from at least one of:

- (i) a local broadcast segment of a given networked television broadcast,
- (ii) a regional broadcast segment of a given networked television broadcast,
- (iii) a national broadcast segment of a given networked television broadcast,
- (iv) an interstitially inserted advertisement in an Internet stream.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw, Finseth, and Diefes to have the multiple points of origin comprise at least one of (i), (ii), (iii), (iv) in order to expand the resources where the system pulls content thereby offering the subscriber a variety of content.

Claims 55 and 56 contains the limitations of claims 27 and 28 respectively and is analyzed as previously discussed with respect to those claims.

11. Claims 29, 30, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta (US20020044659A1) in view of Philyaw et al. (US007043536B1) and Finseth et al. (US007334247B1) as applied to claims 1 and 31 above, and further in view of King et al. (US20010022786A1).

Regarding claim 29, Ohta in view of Philyaw and Finseth does not disclose wherein prior to the transmission of multimedia content in step (f), the multimedia content is examined for the presence of a valid watermark.

King et al. (King) discloses a distribution system. King discloses prior to the transmission (e.g. before going to the output queue) of multimedia content in step (f), the multimedia content is examined for the presence of a valid watermark (e.g. watermark check) (See Fig. 4, paragraph 0004). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Ohta in view of Philyaw and Finseth to have prior to the transmission of multimedia content in step (f), the multimedia content be examined for the presence of a valid watermark, as taught by King, in order to expedite the receiving process, avoid contention, and ensure the watermark is valid (See paragraph 0004).

Regarding claim 30, wherein the validity of an embedded watermark is ascertained by verifying the embedded identification information against information residing in a database (See Ohta Fig. 9; 32, 37, 38, and 39; Fig. 10; S58).

Claims 57 and 58 contains the limitations of claims 29 and 30 respectively and is analyzed as previously discussed with respect to those claims.

Allowable Subject Matter

12. Claims 9, 19, 38-42, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please take note of Shinohara et al. (US006388712B1) for their similar monitoring/verification system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH G. USTARIS whose telephone number is (571)272-7383. The examiner can normally be reached on M-F 7:30-5 PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Joseph G Ustaris/
Primary Examiner, Art Unit 2424